

S.N. 10/001573

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CLAIMS

1. A method for improving the toughness of a CBN product made by a high temperature/high pressure (HP/HT) process, which comprises the steps of:
 - (a) forming a blend of an oxygen getter and CBN product-forming feedstock;
 - (b) subjecting said blend to a CBN high temperature/high pressure (HP/HT) process for forming a CBN product;
 the amount of oxygen getter in said blend being sufficient to improve the toughness of said CBN product.
2. The method of claim 1, wherein said oxygen getter is one or more of Al, Si, or Ti.
3. The method of claim 1, wherein the amount of oxygen getter is between about 0.005 and 0.5 wt-%.
4. The method of claim 2, wherein the amount of oxygen getter is between about 0.005 and 0.5 wt-%.
5. The method of claim 2, wherein said oxygen getter is in the form of one or more of an elemental metal, metal carbide, or metal nitride.
6. The method of claim 4, wherein said oxygen getter is in the form of one or more of an elemental metal, metal carbide, or metal nitride.
7. The method of claim 1, wherein the amount of oxygen getter is adequate to lower the oxygen content of said CBN product to less than about 300 ppm.
8. The method of claim 1, wherein said HP/HT process is conducted in one or more of the absence of a catalyst or the presence of a catalyst.
9. The method of claim 8, wherein said HP/HT process is conducted in the presence of a catalyst devoid of oxygen content.
10. The method of claim 7, wherein said HP/HT process is conducted in the presence of a catalyst devoid of oxygen content.

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11. The method of claim 1, wherein said oxygen getter is removed from said CBN product.
- 5 12. The method of claim 7, wherein said oxygen getter is removed from said CBN product.
13. The method of claim 9, wherein said oxygen getter is removed from said CBN product.
- 10 14. The method of claim 10, wherein said oxygen getter is removed from said CBN product.
- 15 15. The product of the process of claim 7.
16. The product of the process of claim 10.
17. The product of the process of claim 12.
- 20 18. The product of the process of claim 14.